

Abstract of the Disclosure

In a method of manufacturing a capacitor of a semiconductor device and an apparatus therefor, dielectric layers are deposited using only a source gas without a reactant gas and a curing process is performed a single time. As a result, process
5 simplification, yield improvement, and equipment simplification are achieved. In a stand-alone memory or an embedded memory, the step coverage is enhanced and oxidation of a storage node contact plug is prevented. Also, in an analog capacitor, an RF capacitor, or a high-voltage capacitor, which uses thicker dielectric layers than the stand-alone capacitor or the embedded capacitor, the manufacturing process is greatly
10 simplified.

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